

CLAIMS

1. A component tray and carrier tray combination for holding components comprising:
a plurality of component trays;
a carrier tray having a first plurality of carrier tray pockets, wherein each carrier tray pocket is adapted to hold one of the plurality of component trays and includes;
first and second non-parallel carrier tray side walls, wherein said first and second carrier tray side walls include at least one first and one second reference surface respectively for positioning one of the plurality of component trays in said carrier tray pocket; and
first and second compression members;
wherein each said component tray is configured for placement in one of said plurality of carrier tray pockets, each of said component trays including:
a plurality of component pockets each adapted to hold one of the components therein;
first and second component tray sides for contract with said first and second reference surfaces respectively upon placement in a said carrier tray pocket; and
wherein said component tray further includes second and third component tray sides, wherein said second and third component tray sides each have a resilient member, and wherein said component tray is configured so that when one component tray is placed in one carrier tray pocket, said compression members compress said resilient members to force said first and second component tray sides in contact with said first and second reference surfaces respectively.
2. An apparatus as recited in claim 1 wherein each said components is one of a semiconductor device and an integrated circuit.
3. An apparatus as recited in claim 1 wherein said resilient members are an integral part of said component tray
4. An apparatus as recited in claim 3 wherein each resilient member is an elongated resilient structure positioned on one of said second and third tray sides.

5. An apparatus as recited in claim 1 wherein said at least one reference surface is a plurality of protruding portions extending outward from a recessed portion of a said wall.

6. An apparatus as recited in claim 1 wherein said component pockets on a component tray are spaced apart by a center to center spacing of a first distance, and wherein said component trays are separated by partitioning walls in said carrier tray, and wherein said partitioning walls are dimensioned so as to maintain a center to center spacing of component pockets between trays equal to an integer multiple of said first distance.

7. An apparatus as recited in claim 1 wherein said first and second compression members include first and second walls with first and second protrusions respectively.

8. A component tray and carrier tray combination apparatus for holding a plurality of components, the apparatus comprising:

a component tray having a plurality of component pockets, each component pocket adapted to holding one of the plurality of components, said component tray including

first and second component tray orthogonal sides;

third and fourth component tray orthogonal sides having first and second resilient members respectively;

a carrier tray having a first plurality of carrier tray pockets, wherein each said carrier tray pocket is for holding a component tray and includes

first and second orthogonally positioned reference surfaces for assisting in positioning corresponding said first and second sides of said component tray; and

first and second compression members adapted to force said first and second sides of said component tray against said first and second reference apparatus when said component tray is installed in one of said carrier tray pockets.

9. An apparatus as recited in claim 8 wherein said resilient members are an integral part of said component tray.

10. An apparatus as recited in claim 8 wherein said component pockets on a component tray are spaced apart by a center to center spacing of a first distance, and said carrier tray is configured so that when a plurality of component trays are positioned in said carrier tray, said component trays are separated by a second distance dimensioned so as to maintain a center to center spacing of component pockets between trays equal to an integer multiple of said first distance.

11. A component tray and carrier tray combination apparatus for holding a plurality of components, the apparatus comprising:

- a plurality of component trays each having a plurality of component pockets each adapted to one of the plurality of components, first and second component tray orthogonal sides, and third and fourth component tray orthogonal sides, and an attached resilient member; and

- a carrier tray having a plurality of carrier tray pockets, said pockets including:

- a first reference surface for locating said first component tray side when said component tray is placed in said carrier tray pocket;

- a second reference surface for locating said second side of said component tray placed in said carrier tray pocket; and

- a compression member against which said resilient member is compressed upon placing one of said component trays in one of said carrier tray pockets, said compression member and said resilient member being adapted to force said first side and said second side against said first and second reference surfaces, respectively.

12. An apparatus as recited in claim 11 wherein said first and second reference surfaces and include a protrusion from first and second non-parallel walls respectively.

13. An apparatus as recited in claim 11 wherein said resilient member includes a first resilient elongated member attached to said first component tray side, and a second resilient elongated member attached to said second component tray side.

14. An apparatus as recited in claim 11 wherein each said carrier pocket further includes third and fourth non-parallel walls.

15. An apparatus as recited in claim 14 wherein said compression member includes first and second protrusions extending from said third and fourth walls respectively.